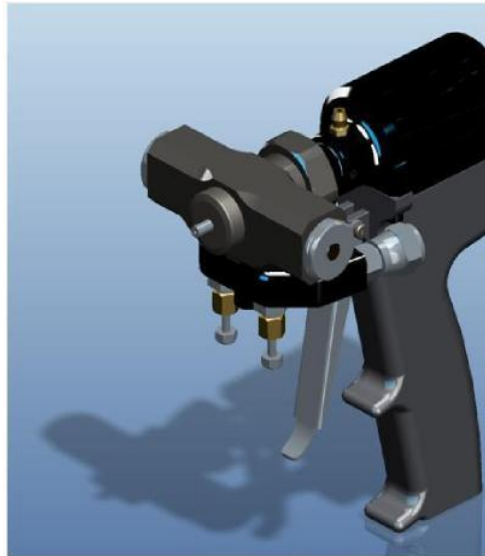




POLYURETHANE MACHINERY CORPORATION



Air Purge Gun AP-1 Service Manual Ref # MN-04002

June 15, 2010
Issue 2.6

Polyurethane Machinery Corporation

Corporate: 55 LaFrance Ave, Bloomfield, NJ 07003
Manufacturing: 2 Gusmer Drive, Lakewood, NJ 08701
Phone: 732-415-4465 Fax: 732-370-7186

Copyright 2010, Polymac-USA
<http://www.polymac-usa.com>



Before installing the AP-1 Gun and start-up, carefully read all the technical and safety documentation included in this manual. Pay special attention to the information in order to know and understand the operation and the conditions of use of the AP-1 Gun. All of the information is aimed at improving user safety and avoiding possible breakdowns from the incorrect use of the AP-1 Gun.



Polyurethane Machinery Corporation (hereinafter "PMC") provides this **LIMITED WARRANTY** (hereinafter "Warranty") to the original purchaser (hereinafter "Customer") covering this equipment and the original PMC manufactured accessories delivered with the equipment (hereinafter "Product") against defects in material or workmanship of the Product (hereinafter "Defect" or "Defective") for a period of one (1) year from the date of first purchase as shown on the original PMC invoice (hereinafter "Warranty Period").

If during the Warranty Period under normal use, the Product is suspected by Customer to be Defective in material or workmanship, it is Customer's responsibility to contact PMC and return the Product to PMC as directed by PMC, freight prepaid. If PMC determines that the Product is Defective and that such Defect is covered by this Warranty, PMC will credit Customer for the reasonable freight charges incurred by Customer in returning the Defective Product to PMC, and PMC (or its authorized agent) will, at PMC's option, repair or replace the Product, subject to the following:

Original Invoice: The original invoice must be kept as proof of the date of first sale and the Product serial number. The Warranty does not cover any Product if the Original Invoice appears to have been modified or altered, or when the serial number on the Product appears to have been altered or defaced.

Product Maintenance: It is the Customer's responsibility to maintain the Product properly. See your maintenance schedule and owner's manual for details. The Warranty does not cover an improperly maintained Product.

Non-PMC Components and Accessories: Non-PMC manufactured components and accessories that are used in the operation of the Product are not covered by this Warranty. Such components and accessories shall be subject to the warranty offered to the Customer, if any, by the original manufacturer of such component or accessory.

Other Warranty Exclusions: The Warranty does not cover any Product that PMC determines has been damaged or fails to operate properly due to misuse, negligence, abuse, carelessness, neglect, or accident. By way of example only, this includes:

- Normal wear and tear.
- Improper or unauthorized installation, repair, alteration, adjustment or modification of the Product.
- Use of heating devices, pumping equipment, dispensers, or other parts or accessories with the Product that have not been approved or manufactured by PMC.
- Failure to follow the operating instructions and recommendations provided by PMC.
- Cosmetic damage.
- Fire, flood, "acts of God," or other contingencies beyond the control of PMC.



THE WARRANTY DESCRIBED HEREIN IS THE EXCLUSIVE REMEDY FOR THE CUSTOMER AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, AND THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND ALL OTHER WARRANTIES ARE HEREBY DISCLAIMED. TO THE FULLEST EXTENT PERMITTED BY LAW, PMC SHALL NOT BE RESPONSIBLE, WHETHER BASED IN CONTRACT, TORT (INCLUDING, WITHOUT LIMITATION, NEGLIGENCE), WARRANTY OR ANY OTHER LEGAL OR EQUITABLE GROUNDS, FOR ANY CONSEQUENTIAL, INDIRECT, INCIDENTAL, LOST PROFITS, SPECIAL, PUNITIVE OR EXEMPLARY DAMAGES, WHETHER TO PERSON OR PROPERTY, ARISING FROM OR RELATING TO THE PRODUCT, EVEN IF PMC HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH LOSSES OR DAMAGES.

Non-Warranty Service by PMC: If PMC determines that the suspected Defect of the Product is not covered by this Warranty, disposition of the Product will be made pursuant to the terms and conditions of PMC's written estimate on a time and materials basis.

Continuing Warranty for Products Repaired or Replaced under Warranty: Following the repair or replacement of a Product covered by this Warranty, such Product will continue to be subject to the original Warranty for the remainder of original Warranty Period or for three (3) months from the repair or replacement date, whichever is longer.

No Rights Implied: Nothing in the sale, lease or rental of any Product by PMC shall be construed to grant any right, interest or license in or under any patent, trademark, copyright, trade secret or other proprietary right or material owned by anyone; nor does PMC encourage the infringement of same.

Exclusive Warranty: This writing is the final, complete, and exclusive expression of the Warranty covering the Product. Any statements made by PMC, its employees or agents that differ from the terms of this Warranty shall have no effect. It is expressly understood that Customer's acceptance of this Warranty, by performance or otherwise, is upon and subject solely to the terms and conditions hereof, and any additional or different terms and conditions proposed or expressed by Customer or anyone, whether in writing or otherwise, are null and void unless specifically agreed to in writing by an Officer of PMC.

WARRANTY	2
SAFETY AND HANDLING.....	5
Important Safety Information	6
CHARACTERISTICS	7
TECHNICAL SPECIFICATIONS	7
GENERAL DESCRIPTION.....	8
INSTALLATION AND START-UP.....	10
SHUTDOWN PROCEDURES.....	12
LOSS OF AIR PRESSURE.....	12
MAINTENANCE	13
Mixing Chamber Maintenance or Replacement	14
Screen Screw and Component Maintenance	15
Gun Block Removal.....	16
Gun Block Reversal	17
Trigger and Trigger Valve Maintenance	18
Air Cylinder Maintenance	19
TROUBLESHOOTING GUIDE.....	20
GUN OPERATION	21
REPLACEMENT KITS.....	22
TOOLS.....	23
AIR PASSAGES	23
PARTS IDENTIFICATION	24

SAFETY AND HANDLING

This chapter contains important information on the safety, handling and use of your **AP-1** series Gun.



Before installing the AP-1 Gun and start-up, carefully read all the technical and safety documentation included in this Manual. Pay special attention to the information to know and understand the operation and the conditions of use of the unit. All of the information is aimed at enhancing User Safety and avoiding possible breakdowns derived from the incorrect use of the AP-1 Gun.

WARNING! presents information to alert of a situation that might cause serious injuries if the instructions are not followed.

CAUTION! presents information that indicates how to avoid damage to the AP-1 Gun or how to avoid a situation that could cause minor injuries.

NOTE: is relevant information of a procedure being carried out.

Careful study of this Manual will enable the operator to know the characteristics of the Gun and the operating procedures. By following the instructions and recommendations contained, you will reduce the potential risk of accidents in the installation, use or maintenance of the AP-1 Gun; you will provide a better opportunity for incident-free operation for a longer time, greater output and the possibility of detecting and resolving problems fast and simply.

Keep this Service Manual for future reference to useful information. If you lose this Manual, ask for a new copy from your PMC Service Center or directly contact Polyurethane Machinery Company.

IMPORTANT SAFETY INFORMATION

The AP-1 Gun has been designed and built for the application of polyurea chemical systems, polyurethane foam chemical systems and some two-component epoxy systems.

WARNING! The design and configuration of the AP-1 Gun does not allow its use in potentially explosive atmospheres or exceeding the pressure and temperature limits described in the Technical Specifications of this Manual to be exceeded.

Always use liquids and solvents that are compatible with the AP-1 Gun. If in doubt, consult **PMC** Technical Service.

When working with the AP-1 Gun, it is recommended that the operator wear suitable clothing and elements of personal protection, including, without limitation, gloves, protective goggles, safety footwear and face masks. Use breathing equipment when working with the Gun in enclosed spaces or in areas with insufficient ventilation. The introduction and follow-up of safety measures must not be limited to those described in this Manual. Before beginning to work with the Gun, a comprehensive analysis must be made of the risks derived from the products to be dispensed, the type of application and the working environment.



To prevent possible injury caused by incorrect handling of the materials and solvents used in the process, carefully read the Material Safety Data Sheet (MSDS) provided by your supplier.

Deal with the waste caused according to current regulations.

To avoid damage caused by the impact of pressurized fluids, do not open any connection or perform maintenance work on components subject to pressure until the pressure has been completely eliminated.

Use suitable protection when operating, maintaining or being present in the area where the equipment is functioning. This includes, but is not limited to, the use of protective goggles, gloves, shoes and safety clothing and breathing equipment.

The equipment includes components that reach high temperatures and can cause burns. Hot parts of the equipment must not be handled or touched until they have cooled completely.

To prevent serious injury through crushing or amputation, do not work with the equipment without the safety guards installed on the moving parts. Make sure that all the safety guards are correctly reinstalled at the end of the repair or maintenance work of the equipment.



CHARACTERISTICS

- * Internal mixing from high pressure impingement
- * Automatic cleaning with air pressure
- * No solvents required
- * Exterior lubrication of the Mix Chamber

Weight: 2.8 lbs

Dimensions: H 8.0" / W 4" / L 7.0"

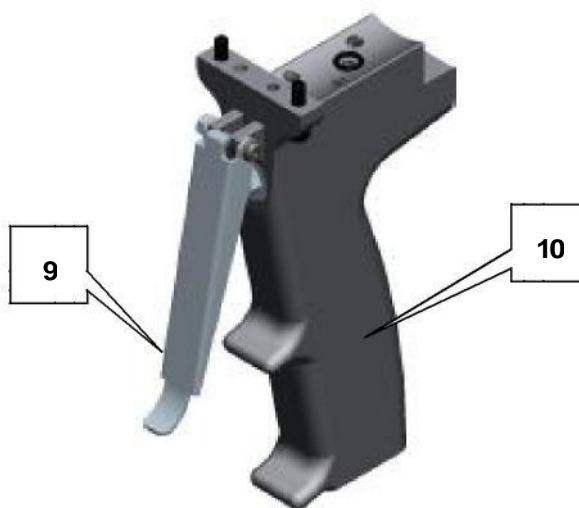
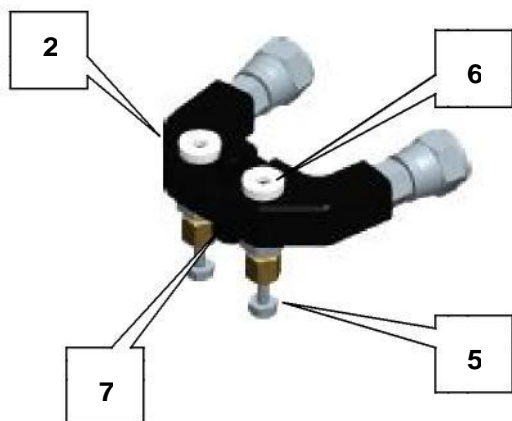
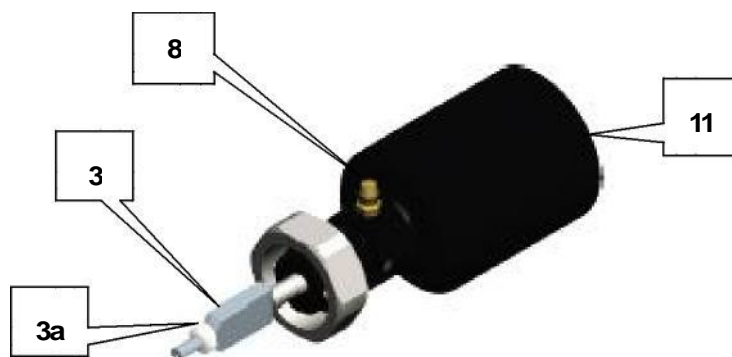
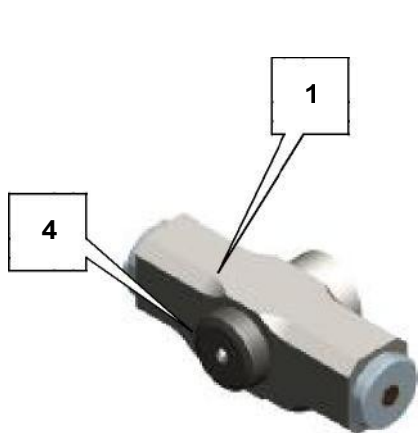
TECHNICAL SPECIFICATIONS

Maximum Working Pressure:	3,500 psi
Maximum Air Pressure:	125 psi
Maximum Output (1:1 ratio):	40 lb/min
Minimum Output (1:1 ratio):	3.3 lb/min
Opening Force @ 110 psi:	200 lb
Closing Force @ 110 psi:	205 lb
Approximate Air Consumption @ 110 psi:	10 cfm

GENERAL DESCRIPTION

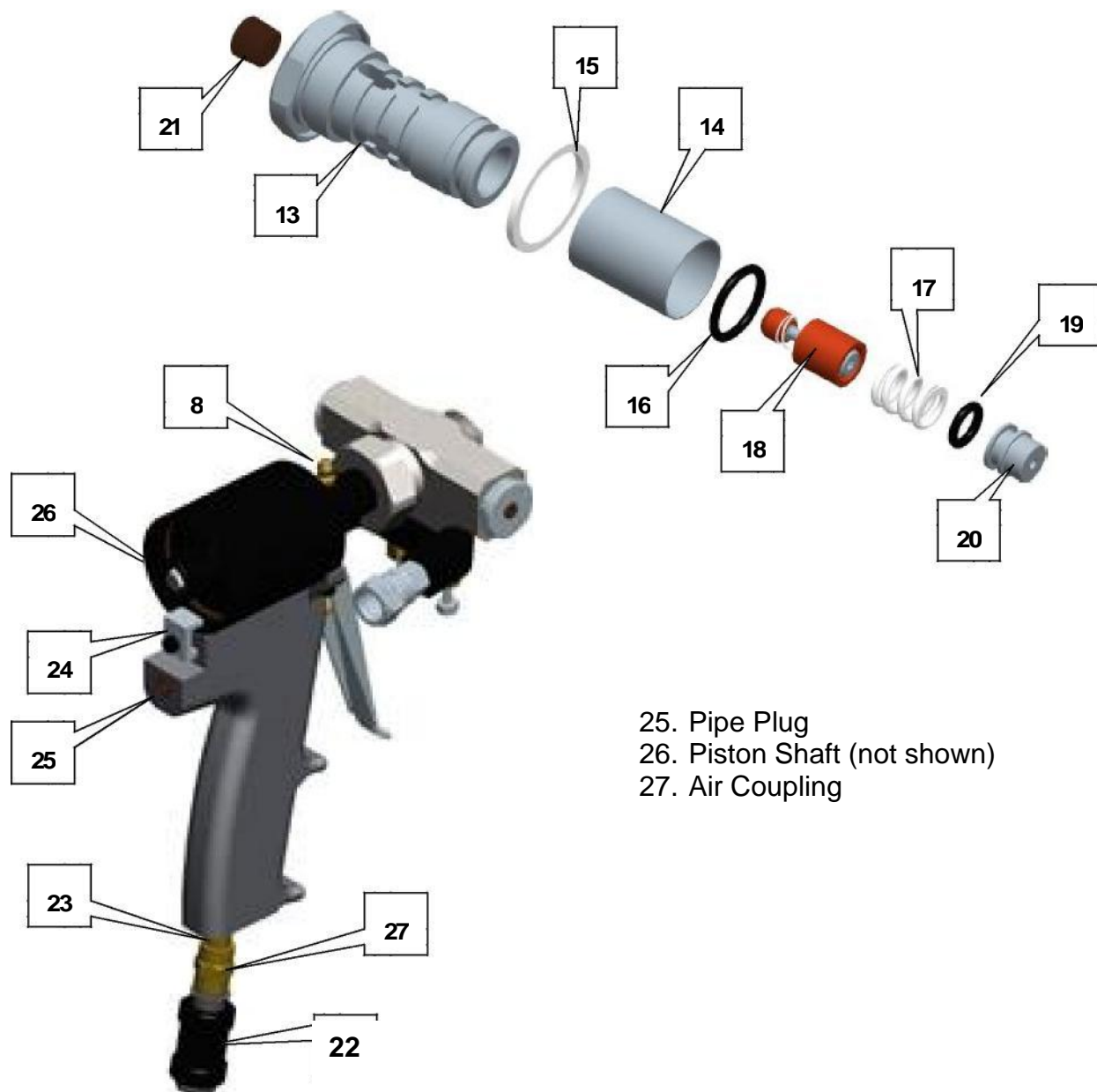
For better knowledge of the **AP-1** Gun, the main components and their description are shown. For a more precise identification, see the Parts Identification section.

- | | |
|--------------------------------|--|
| 1 Gun Block | 6 Coupling Block Gasket |
| 2 Coupling Block | 7 Coupling Block Mounting Screw |
| 3 Mixing Chamber & Seal | 8 Grease Fitting |
| 3a Air Seal | 9 Trigger Handle |
| 4 Air Cap | 10 Gun Handle w/Screws |
| 5 Manual Valve | 11 Air Cylinder w/Screw & Nut |



- 13. Iso (A) Screen Screw
- 13a. Poly (R) Screen Screw (not shown)
- 14. Screen
- 15. Screen Screw Seal
- 16. O-ring
- 17. Spring

- 18. Check Valve Assembly
- 19. O-ring
- 20. Side Seal
- 21. Cleanout Plug
- 22. Air Safety Slide Valve
- 23. Pipe Nipple
- 24. Air Cylinder Mtg. Clamp



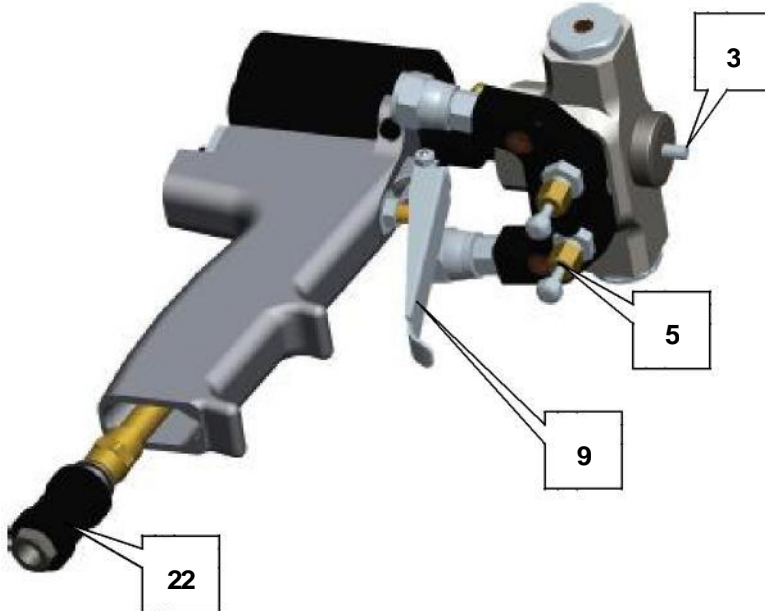
INSTALLATION AND START-UP

CAUTION! *When working with the AP-1 Gun or performing maintenance work, wear suitable safety protection in accordance with the recommendations and specifications provided by the product suppliers.*

1. Ensure the Coupling Block Manual Valves [5] are closed by turning them to the full clockwise position.

CAUTION! *Excessive force closing or opening the Manual Valves may result in damage to the Manual Valves and/or Coupling Block.*

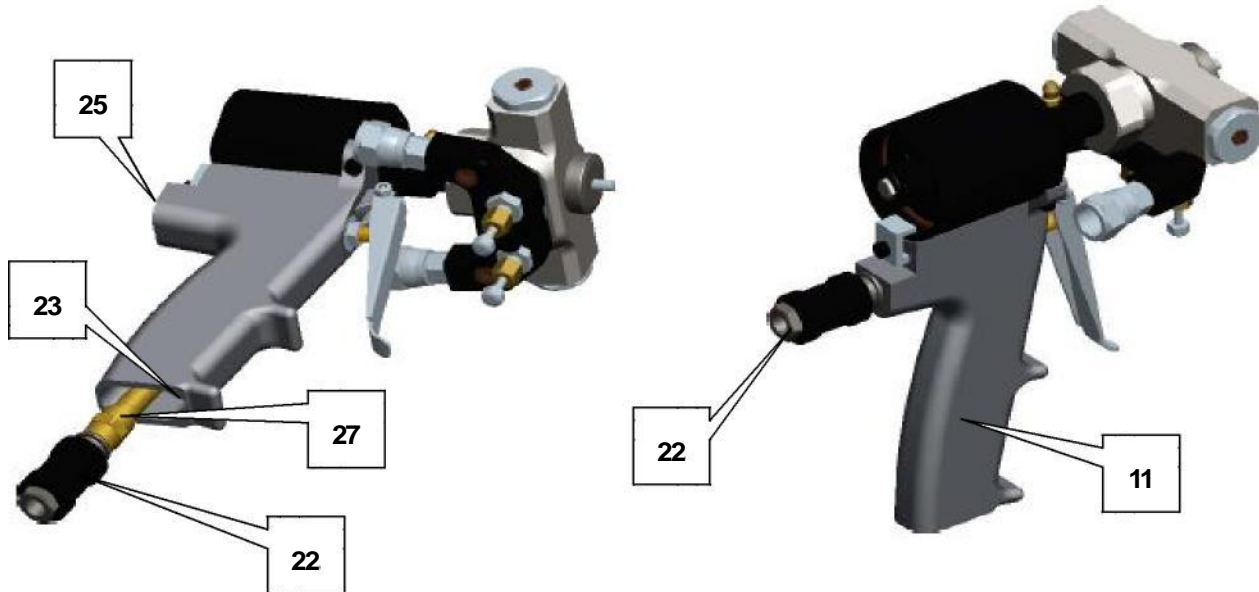
2. CLOSE the Air Safety Slide Valve [22] (downward/rearward position).
3. Connect the AP-1 Gun to the Coupling Block using the supplied Hex Key Wrench [TL-04004]. Ensure Coupling Block Gaskets [6] are in place.
4. Connect the air supply to the Air Safety Slide Valve.



NOTE! *The material delivery hoses are color coded Red and Blue, allowing the user to recognize them. The Red corresponds to the Isocyanate (A) and the Blue to the Polyol (R). To avoid connection errors, the Coupling Connections of the Isocyanate (A) and Polyol (R) hoses are also different sizes, which makes it difficult to swap connections.*

5. OPEN the Air Safety Slide Valve and make sure there are no air leaks.
6. Pull the Trigger [9] several times to check for correct movement of the Mixing Chamber [3].
7. Ensure the material pressures at the Proportioner and the material temperatures in the Material Heaters and Heated Hoses are as recommended by the chemical supplier (see Machine Service Manual).
8. OPEN each Manual Valve by turning to the full counter clockwise position (**six 1/2 turns**).
9. Perform a test spray.

The AP-1 Gun is designed with the flexibility to have the air input at the base of the Gun Handle [11] (standard configuration) or in the rear.



To make the change, do the following:

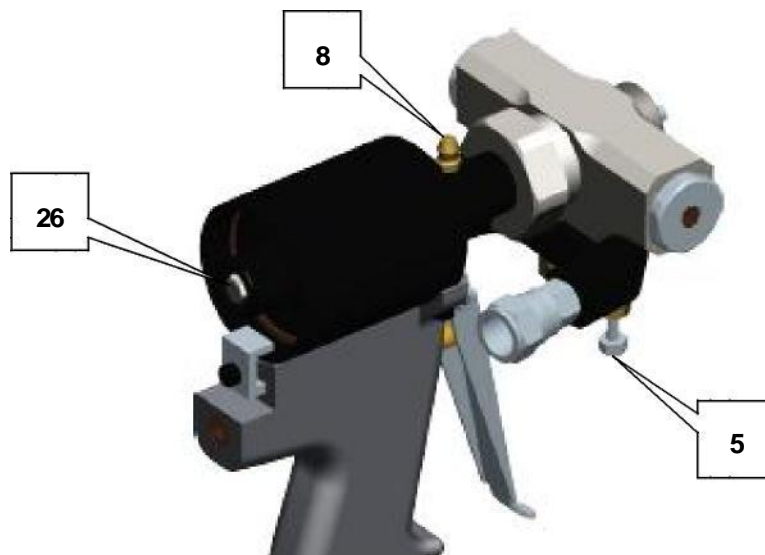
1. Disconnect the Pipe Nipple [23] with Air Coupling [27] from the bottom of the Gun Handle.
2. Unscrew the first Pipe Plug [25] at the rear of the Gun and reinstall into the bottom of the Gun Handle where Pipe Nipple was removed.
3. Remove Safety Slide Valve [22] from the Pipe Nipple and reinstall it to the rear of the Gun Handle.
4. Use Teflon tape or sealing paste on all threads to prevent air leaks.

SHUTDOWN PROCEDURES

1. CLOSE the Manual Valves [5] by turning them to the full clockwise position.

CAUTION! Excessive force closing or opening Manual Valves may result in damage to the Manual Valves and/or Coupling Block.

2. Lubricate the Mixing Chamber through the Fitting [8] until a fine mist of grease is sprayed from the gun with the Grease and Grease Gun supplied in the Tool Kit. This action will minimize moisture in the cleaning air of the Gun from reacting with the ISOCYANATE product and help prevent crystallization which may cause damage the internal parts.
3. CLOSE the Safety Slide Valve [22].
4. Disconnect the air supply



NOTE: The injection of grease supplied with the Gun at the end of the day will minimize maintenance time and eliminate the need to remove the Mixing Chamber each day to clean it. Use of grease with high moisture content will not achieve the desire results.

LOSS OF AIR PRESSURE/EMERGENCY SHUT-OFF

1. Using supplied 5/16" Nut Driver, push **IN** on exposed end of Piston Shaft [26].
2. CLOSE each Material Supply Valve [5].

CAUTION! Excessive force closing or opening Manual Valves may result in damage to the Manual Valves and/or Coupling Block.

MAINTENANCE

To obtain maximum performance from your **AP-1** Gun, it is necessary to periodically perform certain maintenance operations.

WARNING! Before proceeding with any maintenance work on the **AP-1** Gun, ensure the **Air Safety Slide Valve** and the **Manual Valves** are **CLOSED**. Trigger the Gun to remove internal material pressure. It is recommended to remove the Gun from the **Coupling Block**.



To prevent possible injury caused by incorrect handling of the raw materials and solvents used in the process, carefully read the Material Safety Data Sheet (MSDS) provided by your supplier.



Deal with the waste caused according to current regulations.



To prevent serious damage caused by the impact of pressurized fluids, never open a connection or perform maintenance work on components subject to pressure until all pressure has been eliminated.

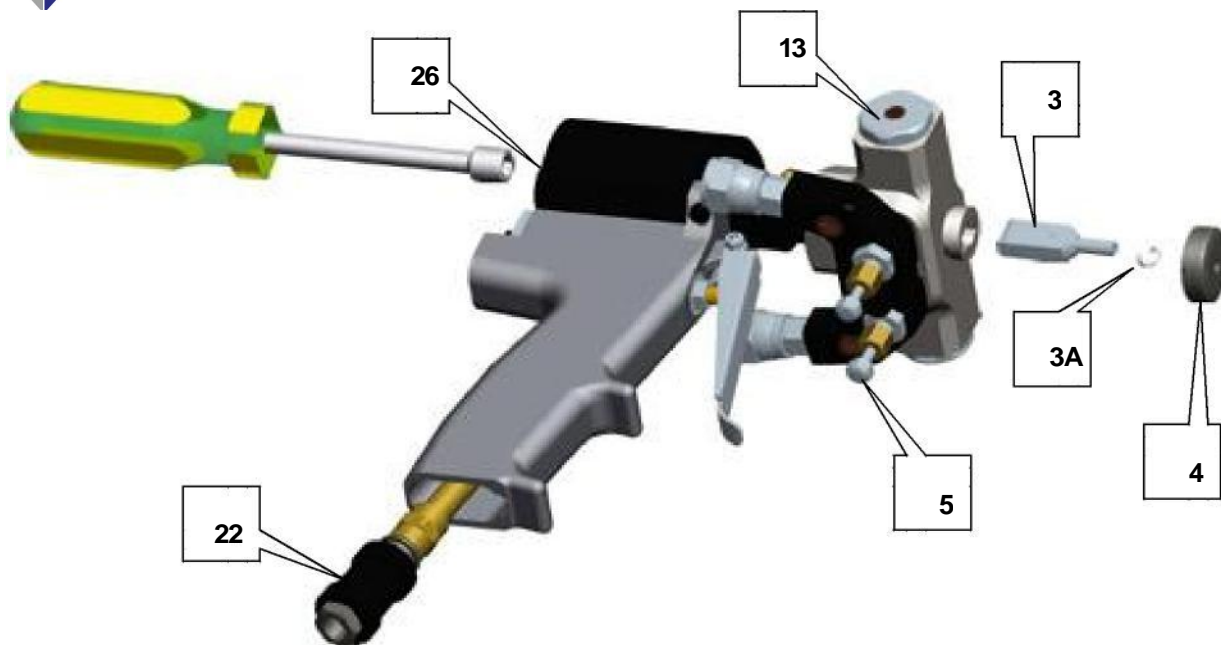


Use suitable protection when operating, maintaining or being present in the area where the equipment is functioning. This includes, but is not limited to, the use of protective goggles, gloves, shoes and safety clothing and breathing equipment.



The equipment includes components that reach high temperatures and can cause burns. Hot parts of the equipment must not be handled or touched until they have cooled completely.

To prevent serious injury through crushing or amputation, do not work with the equipment without the safety guards installed on the moving parts. Make sure that all the safety guards are correctly reinstalled at the end of the repair or maintenance work of the equipment.



Mixing Chamber Maintenance or Replacement

1. **CLOSE** the Manual Valves [5] by turning them to the full clockwise position.

CAUTION! Excessive force opening or closing Manual Valves may result in damage to the Manual Valves and/or Coupling Block.

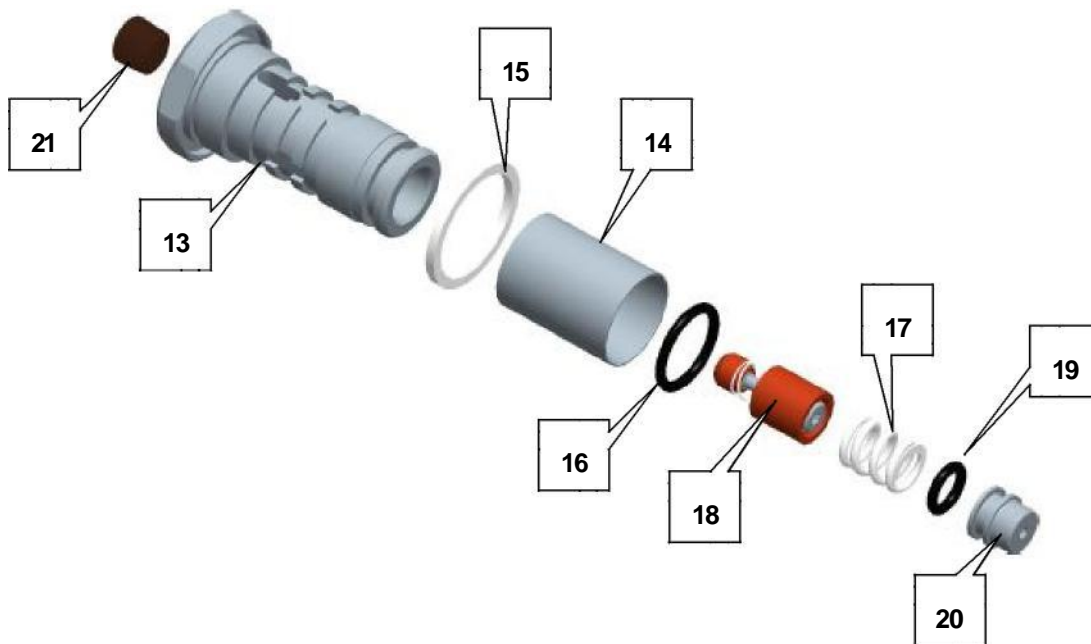
2. Trigger Gun over Waste Container to release internal material pressure.
3. CLOSE the Air Safety Slide Valve [22]. Remove the Air Cap [4].
4. Loosen or remove both Screen Screws [13] to ensure no damage to Side Seal [20] faces (not shown) when the Mixing Chamber [3] is removed.
6. Use a 5/16" Nut Driver and unscrew the Piston Shaft [26] (not shown) from the Mixing Chamber.
7. Chamber.
8. Remove the Mixing Chamber and Air Seal [3A] from the front of the Gun.
9. Flush gun to remove any residue.
10. Clean or replace the Mixing Chamber including Air Seal as required.
11. Reassemble the Mixing Chamber in reverse order.

NOTE! A small amount of grease applied to the Mix Chamber and Side Seals upon assembly is recommended.

CAUTION! Use wooden or plastic tools or a brass brush for cleaning. Do not use metal or abrasive tools that can scratch the contact surfaces.

Screen Screw and Component Maintenance

CAUTION! To avoid possible contamination by the residual chemical inside the Gun, do not interchange the Isocyanate (A) parts with the Polyol (R) parts. The Isocyanate (A) side is identified with a groove around the Screen Screw Head.



1. **CLOSE the Manual Valves [5] by turning them to the full clockwise position.**

CAUTION! Excessive force opening or closing the Manual Valves may result in damage to the Manual Valves and/or Coupling Block.

2. Trigger Gun over Waste Container to release internal material pressure.
3. CLOSE the Air Safety Slide Valve [22].
4. Use a 15/16" open-end wrench and remove the Screen Screw [13].
5. Clean or replace the Screen [14] as required.
6. Remove the Side Seal [20], Spring [17] and Check Valve [18] from the Screen Screw. If necessary, unscrew the access plug [21] to remove the components. Inspect the components Gasket [15] and O-rings [16, 19]. Clean or replace as required.
7. Apply lubrication to the O-rings and threads and reassemble in reverse order.
8. The Gun is now ready for service.

NOTE: When replacing O-rings, replace ALL O-rings included in the appropriate Kit.

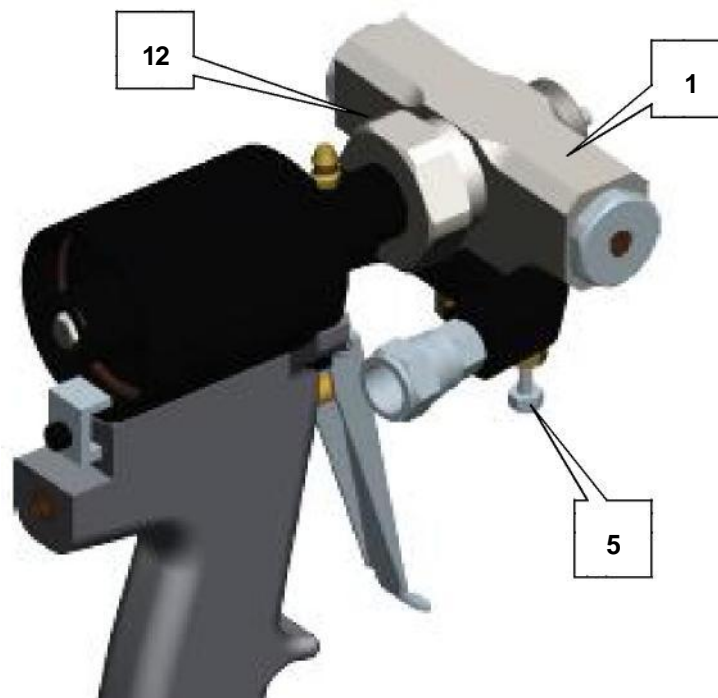
Gun Block Removal

1. CLOSE the Manual Valves [5] by turning them to the full clockwise position.

CAUTION! *Excessive force in opening or closing the Manual Valves may result in damage to the Manual Valves and/or Coupling Block.*

2. Trigger Gun over Waste Container to release internal material pressure.
3. CLOSE the Air Safety Slide Valve [22].
4. Remove Gun from Coupling Block [2].
5. Remove the Mixing Chamber [3] as directed on page 14.
6. Use a 1-3/8" open-end wrench and loosen the Gun Block Retainer Nut [12].
7. Carefully pull the Gun Block [1] forward to remove.
8. Service the Gun Block and component parts as required.
9. Reassemble in reverse order.

CAUTION! *The Mixing Chamber must be removed and installed through the front of the Gun Block before removal and reinstalled AFTER the Gun Block is reinstalled.*



CAUTION! *Use wooden or plastic tools or a brass brush for cleaning. Do not use metal or abrasive tools that can scratch the contact surfaces.*

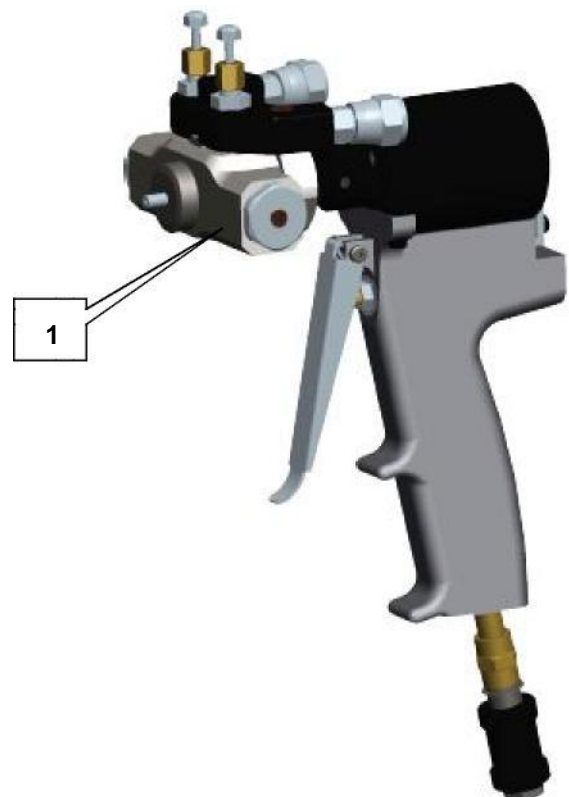
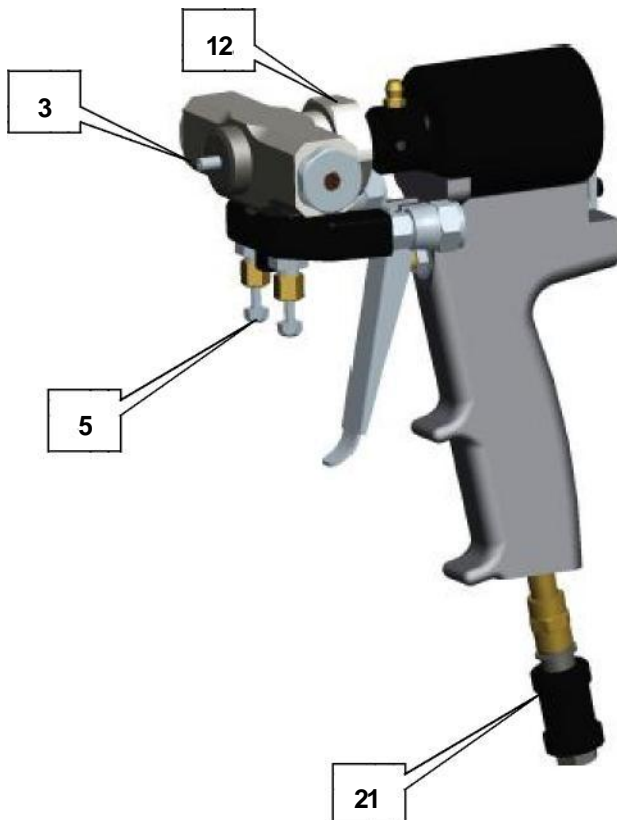
Gun Block Reversal

1. CLOSE the Manual Valves [5] by turning them to the full clockwise position.

CAUTION! *Excessive force opening or closing the Manual Valves may result in damage to the Manual Valves and/or Coupling Block.*

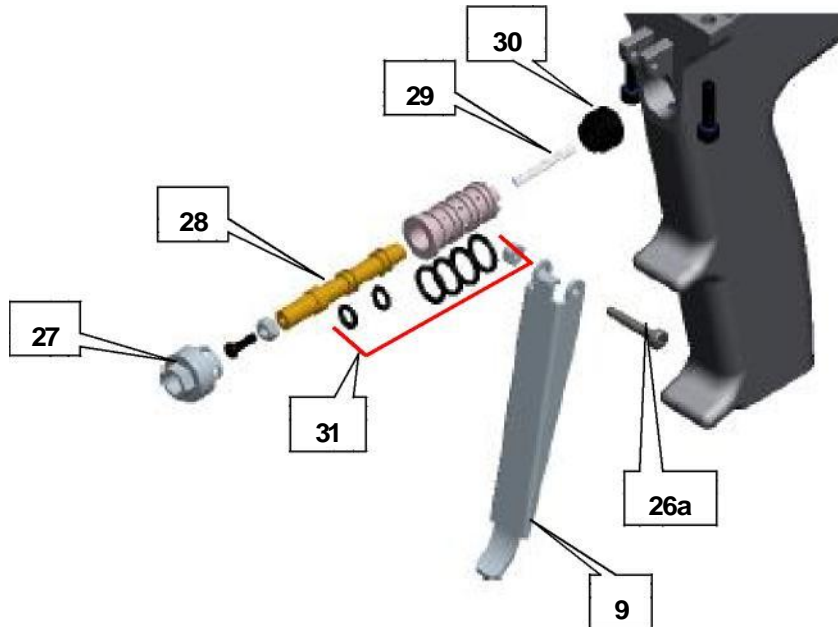
2. Trigger Gun over Waste Container to release internal material pressure.
3. CLOSE the air Safety Slide Valve [21].
4. Remove the Mixing Chamber [3] as directed on Page 14.
5. Use a 1-3/8" open-end wrench and loosen the Gun Block Retainer Nut [12].
6. Pull the Gun Block [1] forward approximately 1/4" (6.35mm) to free from the Retaining Pin (not shown).
7. Rotate the Gun Block 180 degrees and reseal rearward, being careful to re-engage the Retaining Pin.
8. Tighten the Gun Block Retainer Nut.

NOTE: *Depending on Hose orientation, it may be necessary to remove the Coupling Block from the Gun Whip Hose before performing the Gun Block reversal.*



Trigger and Trigger Valve Maintenance

1. CLOSE the Manual Valves [5] by turning them to the full clockwise



CAUTION! Opening and closing the Manual Valves with excessive force may result in damage to the Manual Valves and/or Coupling Block.

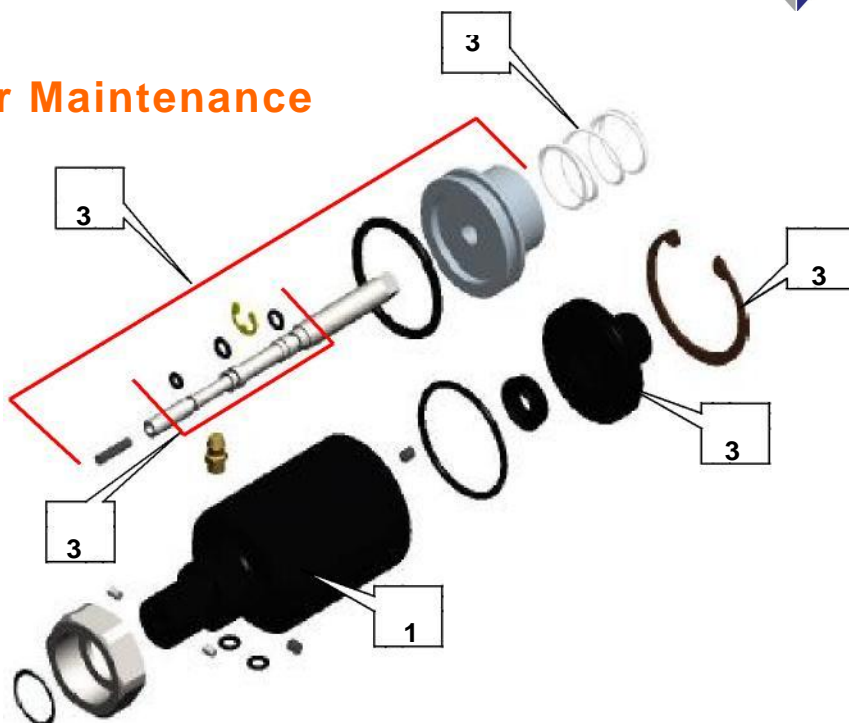
2. CLOSE the Air Safety Slide Valve [21].
3. If the Gun has the air inlet on the rear (optional), disconnect the air line and remove the Air Safety Slide Valve.
4. Remove the Shoulder Bolt [26a] holding the Trigger [9] in place.
5. Unscrew and remove the Retainer Nut [27] of the Trigger Valve.
6. Remove 1/16" Pipe Plug located in Gun Handle inside optional air inlet. Using a Drift Punch, carefully tap out from the rear, entire Trigger Valve assembly.
7. Replace the O-rings and Spring [KT-04003]. Apply a small amount of grease on all components to facilitate the reassembly.

NOTE: When replacing O-rings, replace ALL O-rings included in the appropriate Kit.

8. Inspect, clean and/or replace all remaining Trigger Valve assembly components. Apply a small amount of grease to the inside of the Trigger Valve cavity to facilitate reassembly.
9. Reassemble the Trigger and Trigger Valve assembly in reverse order and reinstall 1/16" Pipe Plug.

CAUTION! Use wooden or plastic tools or a brass brush for cleaning. Do not use metal or abrasive tools that can scratch the contact surfaces.

Air Cylinder Maintenance



1. CLOSE the Manual Valves [5] by turning them to the full clockwise position.

CAUTION! Excessive force opening or closing the Manual Valves may result in damage to the Manual Valves or Coupling Block.

2. Trigger Gun over Waste Container to release internal material pressure.
3. CLOSE the Air Safety Slide Valve [21].
4. Disconnect the air supply to the Gun.
5. Remove the Mixing Chamber [3] from the Gun Block. See page 14.
6. Remove the Cylinder Mounting Clamp [24].
7. Remove the Snap Ring [31] from the rear of the Air Cylinder [11] and pull out the End Cap [32].
8. Remove the Piston Assembly [34] through the rear of the Air Cylinder.
9. Inspect the O-rings [33] on the Piston Assembly and replace as required.

NOTE: When replacing O-rings, replace ALL O-rings included in the appropriate Kit.

10. If the Piston Shaft is damaged, replace by removing the Snap Ring [35] holding the Shaft to the Piston and separate the two parts.
11. Inspect the Spring [36]. It should be 1-1/4" long. Replace if it measures 1-1/8" or less.
12. Coat the inside of the Cylinder and all O-rings with grease to facilitate reassembly.
13. Reassemble the Air Cylinder in reverse order.

CAUTION! Use wooden or plastic tools or a brass brush for cleaning. Do not use metal or abrasive tools that can scratch the contact surfaces.

TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	SOLUTION
Mixing Chamber [3] not flush with Air Cap [4] when Gun is triggered	Air Safety Valve [22] CLOSED	OPEN, see page 10, #5
	Insufficient Gun air pressure (minimum 100 psi)	Ensure 100 psi of air pressure at Gun
	Trigger Valve requires service	Rebuild, see page 18
	Air Passages plugged	Clean, See page 21
Material does not spray when Gun is triggered	Manual Valve [5] CLOSED	OPEN, see page 10, #8
	Mixing Chamber [3] Inlet Orifices plugged	Clean, see page 20
	Side Seal [20] Orifices plugged	Clean, see page 15
	Check Valve [18] plugged	Replace, see page 15
Mixing Chamber [3] moves slowly	Trigger Valve requires service	Rebuild, see page 18
	Piston Assembly [34] requires service	Rebuild, see page 19
	Air Passages plugged	Clean, see page 21
Mixing Chamber [3] moves slowly, then normal speed	Reacted material around Side Seals [20]	Inspect Side Seals [20] and Mixing Chamber [3] for reacted materials, clean, see page 14, 15
Loss of Pattern	Mixing Chamber Nozzle dirty	Clean, see page 20
	Mixing Chamber Air Seal [3A] installed incorrectly or damaged	Inspect and replace, see page 14
Material spray pressure imbalance	Mixing Chamber [3] Inlet Orifices plugged	Clean, see page 20
	Side Seal [20] Orifices plugged	Clean, see page 15
	Check Valve [18] plugged	Replace, see page 15
	Material temperatures not as recommended by material supplier	Adjust, see Proportioner Operating Manual
Iso and/or Resin in Gun Air Passages	Side Seal [20] damaged	Replace, see page 15
	Mixing Chamber [3] damaged	Replace, see page 14
	Side Seal O-rings [19] damaged	Replace, see page 15
Material mist from Mixing Chamber [3] or Air Cap [4]	Side Seal [20] damaged	Replace, see page 15
	Mixing Chamber [3] damaged	Replace, see page 14
	Side Seal O-rings [19] damaged	Replace, see page 15
Excessive overspray	Material temperatures and/or spray pressures not as recommended by material supplier	Adjust, see Proportioner Operating Manual
Buildup of material on Air Cap	Plugged air passages in Air Cap [4] and Gun Block [1]	Clean, see page 21
Steady air leakage from Handle	Air Cylinder [12] O-rings damaged	Replace, see page 19
	Trigger Valve O-rings damaged	Replace, see page 18

NOTE! After troubleshooting AP-1 Gun and performing solution, ensure Proportioner operation is proper.

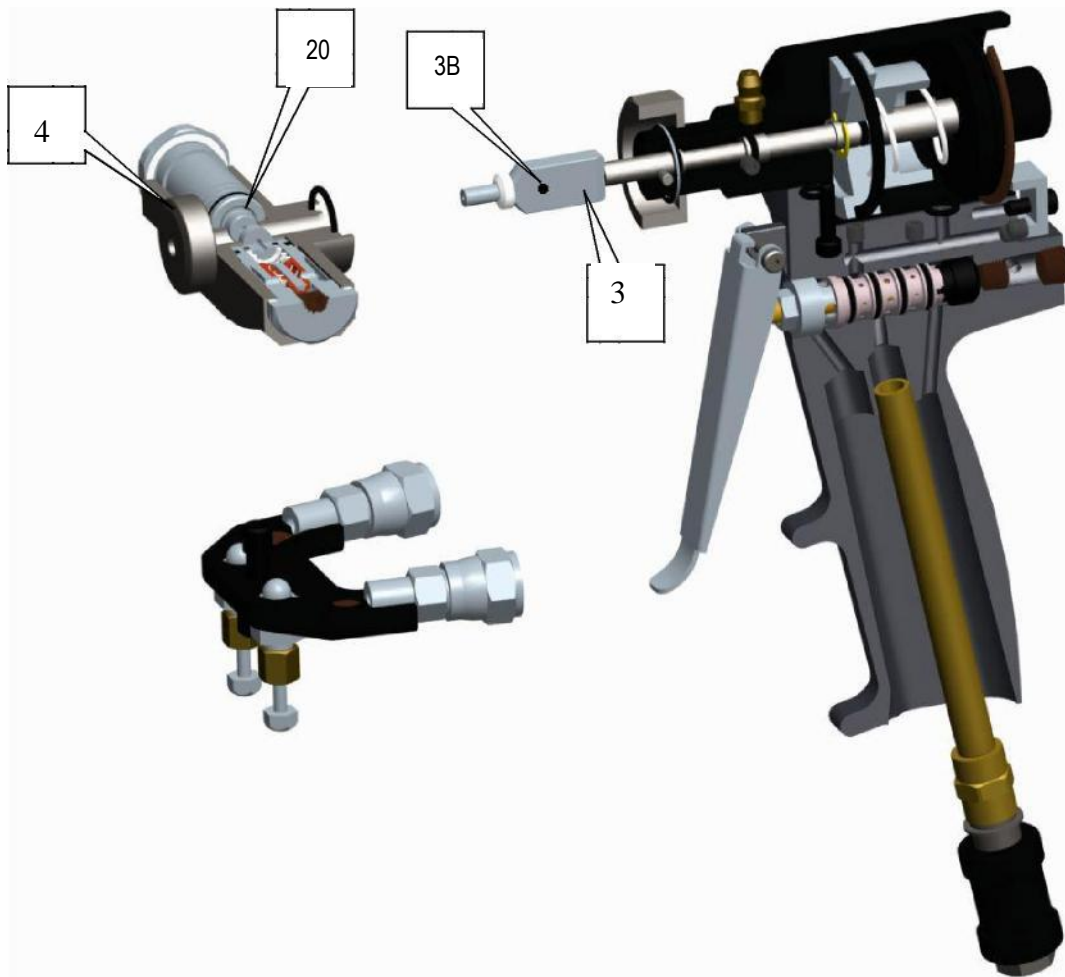
GUN OPERATION

TRIGGERED ON

The Mixing Chamber [3] moves rearward, shutting off purge air flow and aligning Mixing Chamber Orifices [3B] (not to scale) with Side Seal [20] Orifices. This allows material at temperature and pressure to be atomized as it flows into the Mixing Chamber. The two atomized materials are “impinged” on each other and the flow is directed out of the Mixing Chamber Nozzle. A slight offset of the Mixing Chamber Orifices causes the material to swirl forming the round pattern.

TRIGGERED OFF

The Mixing Chamber moves forward, shutting off material flow through the Side Seal Orifices and Mixing Chamber Orifices. Air through porting enters the Mixing Chamber Orifices and expels mixed material out of Mixing Chamber Nozzle.



MIXING CHAMBER KITS

Mixing Chamber Kit	Air Seal	Output	Inlet Orifice Cleanout Drill	Nozzle Orifice Cleanout Drill
GU-04006-00	GU-04024*	3 - 6 lb/min	#69 (.292)*	#56 (.0464)*
GU-04006-01	GU-04024*	5 - 9 lb/min	#59 (.041)*	#53 (.0595)*
GU-04006-02	GU-04024*	10 - 20 lb/min	#56 (.0465)*	#51 (.067)*
GU-04006-03	GU-04024*	12 - 30 lb/min	#53 (.0595)*	#44 (.0935)*
GU-04006-04	GU-04024*	20 - 45 lb/min	#50 (.070)*	#42 (.0935)*

* Included with Mixing Chamber

REPLACEMENT KITS

Side Screen Kits Includes 10-Screens, 4- Screen Screw Washers (GU-04007)

Side Screen Kit P/N	Screen Size (nominal opening)	Screen P/N
KT-04000	#80 (0.007)	GU-04023-80
KT-04001	#60 (0.0098)	GU-04023-60
KT-04002	#40 (0.0165)	GU-04023-40

Trigger Valve Kit, KT-04003

P/N	Description	Qty.
OR-00002A	O-ring	2
OR-00037A	O-ring	4
SP-04002	Spring	1

Manual Valve Kit, KT-02020-00
Includes 4- Manual Valves (GU-02020-00)

Check Valve Kit, KT-04033
Includes 8- Check Valves (GU-04033)

Side Screen O-ring Kit KT-04010

Includes 6- O-rings (OR-00038A),
2- Screen Screw Seals (GU-040007)

Air Cylinder Kit KT-04004

P/N	Description	Qty.
OR-00001A	O-ring	1
OR-00002A	O-ring	4
TN-04093	Snap Ring	1
OR-00029A	O-ring	1
OR-00043A	O-ring	1
OR-00026A	O-ring	1
OR-00042A	O-ring	2
OR-00027A	Seal	1

**Coupling Block Gasket Kit
KT-04012** Includes 6- Coupling Block Gaskets (GU-04012)

REPLACEMENT KITS (cont)

Side Seal Kit

KT-04008 (#00 - #03) Includes 6- Side Seals (GU-04031-02), 6- O-rings (OR-0043A), 3- Springs (SP-04005)

KT-04009 (#04 - #05) Includes 6- Side Seals (GU-04031-03), 6- O-rings (OR-0043A), 3- Springs (SP-04005)

AIR PASSAGES

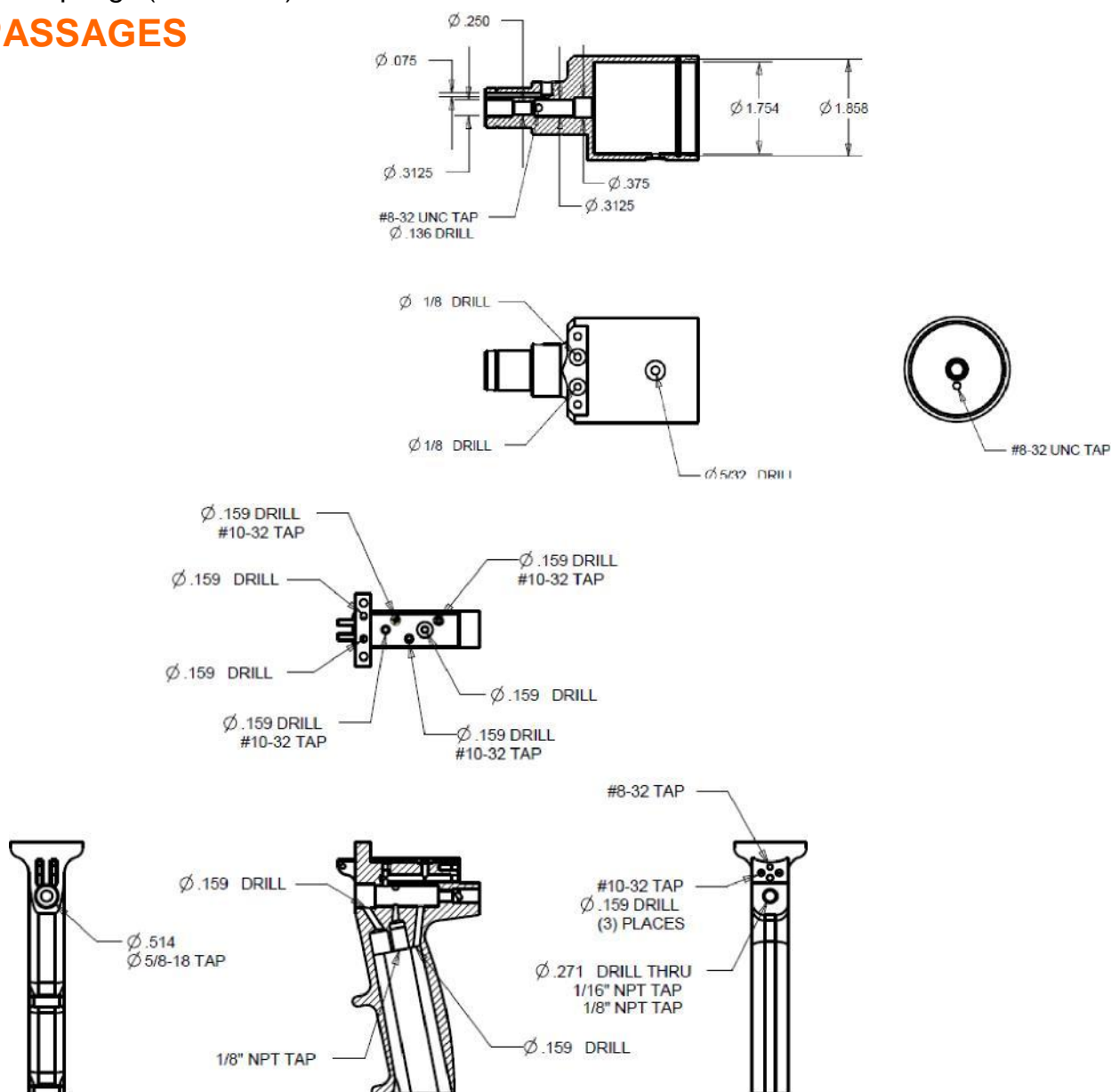
TOOLS

Pin Vise, GU-00101

T-Handle Hex Key Wrench, TL-04004

Grease Gun, TL-00002

Grease, TL-00003



PARTS IDENTIFICATION

